

Abstract

The present invention has found that the Mts1 protein is expressed in white matter astrocytes in the spinal cord. Such expression is significantly increased following sciatic nerve injury or dorsal root injury, particularly in astrocytes surrounding dorsal funiculus containing the central processes of the injured primary sensory neurons. The present invention has further demonstrated that Mts1 proteins administered extracellularly promote neurite outgrowth from neuronal cells. Based on these surprising findings, the present invention provides compositions and methods that are useful for the treatment of various neurological conditions characterized by death, degeneration or injury of neuronal cells.